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PATENT COOPERATION TREATY

PCT

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>9466WO/NW</b>	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. <b>PCT/SE 2003/001562</b>	International filing date (day/month/year) <b>07-10-2003</b>	Priority date (day/month/year) <b>07-10-2002</b>
International Patent Classification (IPC) or national classification and IPC <b>B25J 9/16, B25J 9/18, B25J 13/00, G05D 1/00</b>		
Applicant <b>ABB RESEARCH LTD. et al</b>		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>2</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report.</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input checked="" type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand <b>03-05-2004</b>	Date of completion of this report <b>09-09-2004</b>	
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer  <b>Lars Jakobsson /itw</b> Telephone No. +46 8 782 25 00	

Form PCT/IPEA/409 (cover sheet) (January 2004)

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE 2003/001562

## Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))  
☐ publication of the international application (under Rule 12.4)  
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ the international application as originally filed/furnished

☒ the description:

pages 1-15 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the claims:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19

pages\* 16, 19 received by this Authority on 10-08-2004

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☒ the drawings:

pages 1-5 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International Application No.

PCT/SE 2003/001562

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	<u>1-43</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-43</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-43</u>	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

Documents cited in the International Search Report:

US 6232735 B1  
US 5672044 A  
US 2002120362 A1

None of the documents describes a wireless controller for controlling and/or monitoring a device arranged relative an industrial robot where a processor is arranged with wireless communication function means to and from said device and control means with control function for actuators of the device.

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed wireless controller, method, computer program and a graphic user interface. Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1-43 is novel and is considered to involve an inventive step. The invention is industrially applicable.

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.

**PCT/SE 2003/001562**

**Box No. VI Certain documents cited**

**1. Certain published documents (Rule 70.10)**

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
WO 02078915	10.10.2002	02.04.2002	02.04.2001

**2. Non-written disclosures (Rule 70.9)**

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)

CLAIMS

1. A wireless controller (1) for controlling and/or monitoring a device (15) arranged relative an industrial robot (16),  
**characterised** by comprising wireless communication means  
5 including a processor (6) arranged with communication function means (10) for handling wireless communication to and from said device and control means (3) for carrying out at least one control function for one or more actuators of said device.
- 10 2. A wireless controller according to claim 1, **characterised** in that the control means (3) are comprised in part as one or more computer programs executable by means of said processor that handles the wireless communication functions.
- 15 3. A wireless controller according to claim 1, **characterised** in that the control means (3) is further arranged to process a signal from at least one sensor arranged with said device.
4. A wireless controller according to any of claims 1-3,  
20 **characterised** in that it comprises a configurable hardware I/O interface (9).
5. A wireless controller according to claim 4, **characterised** in that the hardware input/output means (9) of the wireless  
25 controller are integrated in the same unit as said processor.
6. A wireless controller according to claim 1, **characterised** in that the control means (3) further comprises program means for receiving and/or storing operational data of said device.  
30
7. A wireless controller according to claim 6, **characterised** in that the wireless controller comprises memory means (7) for storage of operational data.

-receiving the signal by means of a wireless controller (1)  
arranged mounted on or in conjunction with said device (15),  
-processing the wireless signal in a processor (6) of the  
wireless controller,

5 -generating a second control signal (46) in the processor (6) and  
sending it to said device (15).

22. A method according to claim 21, **characterised** by sending (47)  
the second control signal by means of a hardware I/O interface  
10 (9) of the wireless controller (1).

23. A method according to any of claims 21-22, **characterised** by  
storing operational data for said device in a memory means (7) of  
the wireless controller.

15 24. A method according to any of claims 21-23, **characterised** by  
storing in-signals and result signals sent out in a memory means  
(7) of the wireless controller.

20 25. A method according to any of claims 21-24, **characterised** by  
processing operational data and providing for a web client or a  
thin client data comprising any from the list of: signals,  
results, number of complete cycles, cycle time, statistical  
information, alarms.

25 26. A method according to any of claims 21-25, **characterised** by  
providing operational data for a display means (20).

27. A method according to any of claims 21-25, **characterised** by  
30 providing diagnostic information based on the operational data.

28. A method according to claim 27, **characterised** by providing  
the diagnostic information arranged compatible with a web client  
or a thin client.

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